WHAT IS CLAIMED IS: .

1.  A perpendicular magnetic recording type disk drive comprising:

a double-layered perpendicular magnetic type disk medium having a recording magnetic layer of perpendicular magnetic anisotropy and a soft magnetic layer; and

a magnetic head containing a read head element for reading data from the disk medium,

the read head element using a giant magnetoresistive (GMR) element, and when outputting a read signal waveform corresponding to a reproduction magnetic field from the disk medium, outputting the read signal waveform in which waveform distortion due to leaking magnetic field from the disk medium is suppressed.

2.  The disk drive according to claim 1, wherein the read head element has a reproduction characteristic of linear response dynamic range larger than an average value of reproduction magnetic field from the disk medium.

3.  The disk drive according to claim 1, wherein the read head element has a saturation magnetic field characteristic larger than the average magnetic field from the disk medium magnetized uniformly to any one of positive and negative polarities.

4.  The disk drive according to claim 1, wherein

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the read head element has a linear response
magnetic field characteristic indicating a maximum
value larger than the average magnetic field from the
disk medium magnetized uniformly to any one of the

5    positive and negative polarities.

5.    The disk drive according to claim 1, wherein
the read head element has an artificial
antiferromagnetic coupling magnetic field larger than
the maximum magnetic field from the disk medium

10    magnetized uniformly to any one of the positive and
negative polarities.

6.    The disk drive according to claim 1, wherein
the read head element, assuming that artificial
antiferromagnetic coupling magnetic field is Hex,

15    shield gap length is Gs, a distance from the read head
element to the surface of the recording magnetic layer
is dmag, and remnant magnetization of the recording
magnetic layer is Mr, has a characteristic satisfying
a relational expression "Hex>8Mr*arctan[Gs/(2dmag)].

20    7.    The disk drive according to claim 1, wherein
the disk medium has a bias magnetic field
applying layer for fixing a magnetization direction of
the soft magnetic layer and

the read head element has a characteristic that

25    the direction of the longitudinal bias for determining
an operating point becomes the same direction as a
magnetic field received from the bias magnetic field

applying layer.

    8. The disk drive according to claim 1, wherein the read head element is a spin-valve type GMR element having a hard magnetic field film for longitudinal bias and has a characteristic that a ratio between a product Mst of magnetization and film thickness of a free layer and a product Mrt of remnant magnetization and film thickness of the hard magnetic film (Mrt/Mst) is set to 3 or more.